Atty. Docket No.:
33808F111

**IN THE CLAIMS:**

Please amend claims 1-9 as follows.

1. (Once Amended) Process for the decarbonatation of gas flows, [preferably air,] contaminated with $CO_2$, [characterized in that] comprising placing in contact the gas flow to be purified [is placed in contact], in an adsorption zone, with at least one adsorbent consisting essentially of a zeolite [of] containing NaLSX [type] with an Si/Al ratio of 1 to 1.15, exchanged with sodium to a degree of greater than or equal to 98%, the degree of exchange being expressed as the ratio between the number of sodium ions and the number of aluminium atoms in a tetrahedral position, the remainder of the exchange capacity being occupied by potassium ions, agglomerated with a binder, the content of residual inert binder in the adsorbent being less than or equal to 20% by weight.

Claim 2, line 1, change "in which" to --wherein--.

3. (Once Amended) Process according to Claim 1 [or 2], wherein [characterized in that] it is performed by pressure swing adsorption (PSA) [and preferably by pressure temperature swing adsorption (PTSA)].

4. (Once Amended) Process according to [any one of] Claim[s] 1 [to 4], wherein [in which] the zeolite X has an Si/Al ratio of 1.

5. (Once Amended) Process according to [any one of] Claim[s] 1 [to 4], wherein [in which] the adsorption pressures are between 1 and 10 bar and the desorption pressures are between 0.1 and 2 bar.

6. (Once Amended) Process according to [any one of] Claim[s] 1 [to 5], wherein [characterized in that] it comprises carrying out a treatment cycle comprising [the steps]:

a) passing the contaminated gas flow into an adsorption zone comprising the adsorbent bed, the adsorbent bed ensuring separation of the contaminant(s) by adsorption,

b) desorbing the adsorbed $CO_2$ by establishing a pressure gradient and gradually lowering the pressure in the [said] adsorption zone [in order] to recover the $CO_2$ at the adsorption zone inlet;

c) raising the pressure of the [said] adsorption zone by introducing a stream of pure gas via the adsorption zone outlet.

Claim 7, line 1, change "in which" to --wherein--.

8. (Once Amended) Process for purifying air contaminated with $CO_2$ and $H_2O$, [characterized in that] comprising the gas flow to be purified is placed in contact, in an adsorption zone, with at least one drying agent[, preferably based on alumina,] and at least with an adsorbent consisting essentially of zeolite [of] containing NaLSX [type] with an Si/Al ratio of 1 to 1.15, exchanged with sodium to a degree of greater than or equal to 98%, the degree of exchange being expressed as the ratio between the number of sodium ions and the number of aluminium atoms in a tetrahedral position, the remainder of the exchange capacity being occupied by potassium ions, agglomerated with a binder, the content of residual inert binder in the adsorbent being less than or equal to 20% by weight.

9. (Once Amended) Process according to Claim 8, [characterized in that] wherein it

comprises carrying out a treatment cycle comprising [the steps]:

a) passing the contaminated gas flow into an adsorption zone comprising a drying-agent bed and an adsorbent bed, with at least one adsorbent consisting essentially of a zeolite containing NaLSX with an Si/Al ratio of 1 to 1.15, exchanged with sodium to a degree of greater than or equal to 98%, the degree of exchange being expressed as the ratio between the number of sodium ions and the number of aluminium atoms in a tetrahedral position, the remainder of the exchange capacity being occupied by potassium ions, agglomerated with a binder, the content of residual inert binder in the adsorbent being less than or equal to 20% by weight [as defined in Claim 1],

b) desorbing the adsorbed $CO_2$ by establishing a pressure gradient and gradually lowering the pressure in the [said] adsorption zone [in order] to recover the $CO_2$ at the adsorption zone inlet;

c) raising the pressure of the [said] adsorption zone by introducing a stream of pure gas via the adsorption zone outlet.

Please add new claims 10-12 as follows.

--10. (New) Process according to Claim 1, wherein the gas is air.

11. (New) Process according to Claim 3, wherein the process is performed by pressure temperature swing adsorption (PTSA).

12. (New) Process according to claim 8, wherein the drying-agent contains alumina.--